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THE COST OF THE WAR AND HOW IT WAS MET

The time has not yet come for a final statement of the fiscal history of the war. For one thing, the figures are not yet completely available; and, in the next place, the expenses connected with the war are not yet over. It is, however, not premature, one year after the declaration of the armistice, to attempt to present in a summary fashion a preliminary survey and interpretation of the facts. Various ad interim endeavors to present certain phases of the subject have already been made.¹

The problems to which it is desired here to call attention are as follows. In the first place, what is meant by the cost of war? Secondly, in considering actual governmental outlays, is it desirable to distinguish between the expenditures during the war and war expenditures? And, if the answer be in the affirmative, how are the latter facts to be ascertained? In the third place, from what sources were the actual war outlays derived? This introduces, of course, the question of taxes versus loans. The facts as to taxation are first to be secured. Here it will be seen that there is considerable confusion as to what is meant by war taxes, and that, just as there has been a failure to distinguish between expenditures of the war period and war expenditures, so the proper line has not been drawn between taxation during the war and war

¹ The most valuable presentation of facts for the earlier period of the war will be found in the bulletins of the Copenhagen War Study Society and of the *Société de Banque Suisse*. Some later figures will be found in L. P. Ayres, *The War with Germany*, published by the Statistics Branch of the General Staff of Washington, 1919. Some computations as to the cost of the war will be found in Edgar Crammond's *Address on the Cost of the War* before the Institute of Bankers, London, March, 1919; as well as in Sir Edward Holden's *The Cost of the War and its Payment* in his report to the London City and Midland Bank, January, 1919. Facts as to public debts will be found in *The World's War Debt* (Mechanics and Metals National Bank, New York, 1919); in *The Internal War Loans of Belligerent Countries* (National City Company, 1918); and in the article by L. R. Gottlieb on the "Indebtedness of the Principal Belligerents" in the *Quarterly Journal of Economics* for May, 1919. The most valuable document for the earlier period of the war is the report, No. 4133, to the French Chamber of Deputies, by M. Louis Marin in 1917. By all odds the most complete and valuable studies on the subject are those by Professor Gaston Jèze in almost every number of the *Revue de Science et de Législation Financières*. He has dealt particularly with England, France, Italy, and Germany in three series of articles entitled respectively "Les Finances de Guerre," "Les Méthodes Financières," et "Les Emprunts de Guerre."

taxation. A correct interpretation of the facts will yield some rather unexpected results. The fourth problem is that of the relative weight attached by different countries to the various categories of taxation in raising the necessary revenues. Finally, we have to consider the rôle played by public debts and the relative importance attached to long-time and short-period borrowings.

In order to put the results in the most compact form, a series of tables have been constructed. The figures throughout this article have been taken from official sources;² and the foreign currencies have been converted into dollars according to a scale which represents their actual pre-war coin value.³ Owing to the depreciation of the foreign currencies, this naturally gives a somewhat exaggerated picture of the existing burdens.

I

The cost of the war may mean several different things. In the narrower sense, it means the actual money outlay, or expenditure

² The official sources that have been utilized are as follows:

Great Britain: The various speeches, as found in Hansard, of the chancellors of the exchequer (Lloyd George, 1914-15; McKenna, 1915-16; Bonar Law, 1917-18; and Austen Chamberlain, 1919,—the last being his speeches of May and June, 1919) and of the Prime Ministers (Asquith and Lloyd George); the *Annual Finance Accounts*; the *Reports of H. M. Inland Revenue*; and the *Return relating to the National Debt from 1875 on* (cd. 8972, 1918).

France: The annual reports (*Rapports Généraux*) of the Budget Commission; the *Exposé des Motifs du Projet de Loi* for each of the new revenue laws; and the speeches in the Chamber of Deputies of the Ministers of Finance (Ribot, 1915-16; Klotz, 1917-19,—the last being the speech of May 27, 1919).

Italy: The reports (*Relazioni*) and speeches of the Ministers of the Treasury (Carcano, 1916-17; Nitti, 1917-18; Stringher, 1919; Schanzer, 1919,—the last being the speech of July, 1919) as well as the studies of Professors Flora, Cabiati and Einaudi.

Germany: The Reichstag speeches of the Ministers of Finance (Kuhn, 1914-15; Helfferich, 1915-16; von Roedern, 1916-18; Schiffer 1918-19; and Erzberger, 1919,—the last being his speech of October, 1919).

Russia: The reports of the Ministers of Finance, especially Bark, 1914-16; Gukovski, 1916-17; and Tereschenko, 1917.

Austria-Hungary: The reports of the Budget Commissions.

Translation of some of these reports will be found in the *Bulletin de Statistique*. Excerpts from some of the above reports as well as of the official reports of other countries will be found in the current numbers of *The Economist* and *L'Economiste Européen*.

³ 1 £ = \$4.87.

1 franc = 19.3 cents.

1 mark = 23.8 cents.

1 ruble = 51.5 cents.

1 crown = 20.3 cents.

1 £ T = \$4.40.

in dollars and cents, directly involved in prosecuting the war. In the wider sense it includes many items, both direct and indirect, which are of significance from the economic point of view. The real cost of the war in this sense may mean either the actual loss of lives and of property or the diminution of the annual social output. The direct loss of property is susceptible of fairly accurate measure; the cost due to the loss of lives is more difficult to estimate. Most of the calculations on the latter point have been entirely arbitrary. So far as the wealth of a country is measured by its social income it may be reduced by the actual loss of territory, as in Germany and Austria; by the impairment of its natural resources such as coal mines and forests, as in France; by the reduction of labor power, due to the wounded workmen or the results of starvation on the civilian population, as in most of the European countries; or by the loss of economic efficiency due to a lowering of the standard of life or to a change in the attitude toward habits of work. The total costs of a war in this sense, although they are for the most part incalculable, are none the less of profound significance.

In this paper we shall attempt to deal only with the direct money costs. These direct money costs or governmental expenditures for war include not only the actual outlays for military and naval purposes but also the whole range of expenditures incurred in industrial life to prepare the wherewithal for the army and navy; and they also comprise the sums devoted to the maintenance of the families of the soldiers. All these items are far greater in modern times than they used to be. It is a far cry from the meeting of two savage tribes armed with bows and arrows or javelins to the modern sixteen inch guns, the dreadnoughts, the aeroplanes, the submarines, the poison gas, and the innumerable technical adjuncts of modern warfare. The consequence is that the money costs of the great war have far transcended those of all previous conflicts.

The attempt to present in figures the cost of the war even in this restricted sense meets with several difficulties. In the first place, the question arises as to the period when we ought to stop. In one sense the war ceased when the armistice was declared: in another sense the war did not actually stop until peace was ratified—in this case a matter of over a year more. But even when peace is made, the war expenditures are by no means over. The process of demobilization is a slow one; and in many countries there have been considerable demobilization bonuses. Moreover, it

is necessary to continue for some time the policing of the conquered countries. Again, we must take account of the compensation to citizens for war damages; of the expenses of reconstruction; and of the loss on exchange of the depreciated currencies. Finally comes the question of the pensions to the wounded soldiers or to the families of the dead. It will be seen, therefore, how impossible it is to state with any accuracy at the present time the costs of the war, while these are still being incurred. Furthermore, the figures ordinarily given contain many inaccuracies. The richer countries make advances to the poorer countries, and these expenditures are sometimes counted twice in the total—a procedure legitimate only on the assumption that the loans will not be repaid. Again, in a country like the United States, which has substituted an insurance system for pensions, the nominal expenditures appear smaller than is really the case, because of the receipt of vast insurance premiums which will ultimately all be expended again. Finally, the figures make no allowance for the changes in the price level or the alteration in the value of money. In a great war like the present, prices always rise; in some countries they have doubled, in some they have more than trebled, for reasons which it is needless to discuss here. What seems, therefore, to be an increasing outlay from year to year may be in reality due, in part at least, to this cause.

After making allowance for these difficulties, we may proceed to state some of the facts as to the actual outlays of various countries.

The first point of interest is the average daily expenditure for war purposes. In all the belligerent countries it naturally took some time for them to get into their stride. This is especially true of Great Britain. The figures of the average daily expenditures, as given by the chancellors of the exchequer, amount to almost ten million dollars for the opening months of the war and reached the maximum of almost thirty-six millions by 1918. These stupendous figures, however, are somewhat exaggerated, because no distinction is made between expenditures in the war and expenditures for the war. In order to ascertain the real war expenditures in any country, it is obvious that we must deduct the amount of ordinary or peace expenditures. This it is not always easy to do. In the first place, peace expenditures themselves tend to grow from year to year. If, therefore, we take as a criterion the ordinary expenditures for the year preceding the war, this sum ought, es-

pecially in a long war, to be somewhat increased from year to year. In the second place, the expenditures prior to the war may sometimes include preparations for an impending war and should therefore be reduced accordingly. Since, however, it is impracticable to make these detailed corrections in every case, it will suffice to deduct from the expenditures of each war year the amount of the expenditures in the last year of peace, even though this tends slightly to exaggerate the real money cost of the war. Making these corrections, it appears from table A that the average daily war expenditures in Great Britain grew from 9½ million dollars during the first eight months of the war to 33½ millions in 1918 and then slowly receded. In France the average daily expenditures, as was to be expected, were somewhat less, rising from about 8½ million dollars during the first three months of war to over 21 millions during 1917, the last full year of war. In Germany the daily expenditures were approximately the same as in Great Britain, rising from about 13 million dollars in the first nine months of the war to about 34½ millions during the last half of 1918. In the case of both Germany and France, however, it is not known whether the figures comprise the total expenditures or only the purely war expenditures. In the former event, the daily expenditures of Germany would be a little less than those of Great Britain; in the latter, they would be a little more. In Italy and Austria, the daily expenditures were naturally smaller, amounting as a maximum to 10½ and 20 millions respectively. In Russia the daily expenditures rose in 1916 to 21 millions, and in 1917, just prior to the October revolution, nominally to 47 millions. Owing to the great depreciation of the ruble, however, the actual expenditures were much less. The salient facts are given in table A.

TABLE A.—AVERAGE DAILY WAR EXPENDITURES.
(In millions)

GREAT BRITAIN					
	Average daily total expenditures		Average daily war expenditures ¹		
	£	\$	£	\$	
Aug. 4, 1914—Mar. 30, 1915	2.05	9.98	1.98	9.46	
Apr. 1, 1915— " 1916	4.27	20.79	3.73	18.16	
" 1916— " 1917	6.02	29.33	5.48	26.69	
" 1917— " 1918	7.39	35.97	6.85	33.36	
" 1918—Nov. 9, 1918	7.44	34.43	6.52	31.75	
(Armistice)					
Nov. 10, 1918—Mar. 30, 1919	6.47	7.07			

FRANCE

	Average monthly war expenditures		Average daily war expenditures
	<i>fr.</i>	\$	\$
Aug. 3—Dec. 31, 1914	1,318	254	8.5
Jan. 1—Dec. 31, 1915	1,900	367	12.2
“ — “ 1916	2,743	529	17.6
“ — “ 1917	3,360	648	32.4

GERMANY

	Average monthly war expenditures		Average daily war expenditures	
	<i>Mk.</i>		<i>Mk.</i>	\$
Aug. 1, 1914—June 30, 1915	1,675		55.8	13.3
July 1, 1915—“ 1916	2,008		66.9	15.9
“ 1916—“ 1917	2,867		95.6	22.7
“ 1917—“ 1918	3,908		130.3	31.
“ 1918—Dec. 31, 1918	4,358		145.2	34.5

ITALY

	Annual expenditures ²		Average daily expenditures
	<i>li.</i>	\$	\$
July 1, 1915—June 30, 1916	3,351	1,612	4.4
“ 1916—“ 1917	14,132	2,727	7.5
“ 1917—“ 1918	19,734	3,808	10.4
“ 1918—Oct. 31, 1918	9,726	1,977	6.5

RUSSIA

	Annual war expenditures		Average daily war expenditures
	<i>ru.</i>	\$	\$
Aug. 1, 1914—Dec. 31, 1914	1,703	877	5.8
Jan. 1, — “ 1915	9,194	4,735	12.9
“ — “ 1916	15,372	7,916	21.6
“ —Oct. 30, 1917	25,231	12,993	47.0

AUSTRIA³

	Annual war expenditures		Average daily war expenditures
	<i>Kr.</i>	\$	\$
July 28, 1914—June 30, 1915	10,706	2,174	6.4
July 1, 1915—“ 1916	15,726	3,192	8.7
“ 1916—“ 1917	18,788	3,812	10.4
“ 1917—“ 1918	22,170	4,500	12.3

¹ Arrived at by deducting the expenditures for the year 1913-1914 (197 millions) from the total expenditures.

² Not including payments abroad.

³ The figures for Hungary are not available; but as the total expenditures of Hungary during the four years were about one third of those of Austria, it is safe to add that proportion to the Austrian expenditures in order to ascertain the average daily war expenditures of Austria-Hungary.

When the United States entered the war, the scale of operations became so gigantic that the daily war expenditures soon far exceeded those of any other belligerent. In the second month of the war the average daily expenditures for war purposes reached 15 million dollars, and a little over a year later they had risen to almost 50 million. By the end of 1918, as appears from table B, the daily average war expenditures attained the staggering sum of 64½ million dollars, almost double those of Great Britain and far exceeding those of any other belligerent.

We come next to the total cost of the war. In attempting to present the comparative statistics on this point, we must be mindful of the difficulties adverted to above. The figures are not quite accurate and cannot be made entirely accurate for several reasons. In the first place, the last date in the official return differs from country to country. The dates are, however, all subsequent to the armistice, with the exception of Russia, where we have no trustworthy figures after the October revolution in 1917. In the second place, we do not know, except in the case of the United States and Great Britain, whether the figures comprise the total expenditures or only the purely war expenditures. Even in the case of the United States the official figures are not quite accurate, as will be seen below.⁴ Moreover, in the case of Japan as well as some of the minor belligerents, no figures are included because the war expenditures were either virtually non-existent or of an exceedingly insignificant amount.

Making allowance for these points, it will be seen from table C that the total war expenditures amount to about 232 billion dollars. From this sum, however, must be deducted the amounts counted twice, because advanced to their allies by the United States, Great Britain, France, and Germany, aggregating a little over 21 billions. This would bring the actual net war expenses to over 210 billion dollars.⁵ Inasmuch, however, as most of the countries will continue, for some little time in the future, to have expenditures attributable to the war, it is probable that the total war expenditures will, by the end of 1920, amount to over 236 billions, or, deducting the advances to allies, to a little less than

⁴ *Infra*, p. 753, note to table H.

⁵ For France we have taken the total five-year expenditures as stated by Minister Klotz in 1919 (192 billion francs) and have deducted 23 billions, as representing the peace expenditures for the four and a half year period, thus leaving a remainder of 169 billion francs or 31½ billion dollars.

TABLE B.—EXPENDITURES OF THE UNITED STATES.
(In millions)

Period	Monthly expenditures exclusive of the principal of the public debt and of postal expenditures	Monthly war expenditures ¹	Average daily war expenditures
1917: Apr. 6-30	\$279	\$219	\$8.0
May	527	467	15.0
June	410	350	11.7
Total, Apr. 6-June 30	\$1,216	\$1,156	
July	662	602	19.4
August	757	697	22.5
September	746	686	22.9
October	944	884	29.5
November	986	926	30.9
December	1,105	1,045	33.7
1918: January	1,090	1,030	33.2
February	1,012	952	34.0
March	1,156	1,096	35.9
April	1,215	1,155	38.5
May	1,508	1,448	46.7
June	1,512	1,452	48.4
Total, fiscal year 1918	\$12,697	\$11,977	
1918: July	1,608	1,548	49.9
August	1,805	1,745	56.8
September	1,557	1,497	49.9
October	1,665	1,605	51.8
November	1,935	1,875	62.5
December	2,061	2,001	64.5
1919: January	1,962	1,902	61.4
February	1,189	1,129	40.0
March	1,379	1,319	42.5
April	1,429	1,369	45.6
May	1,112	1,052	33.9
June	809	749	24.9
Total, fiscal year 1919	\$18,505	\$17,785	
Total, Apr. 6, 1917-June 30, 1919	\$32,428	\$30,918	

¹ Obtained by deducting one twelfth of the annual (peace) expenditures for 1915-1916 exclusive of postal expenditures: *i.e.*, one twelfth of \$1,008—287 millions = 60 millions. Secretary Glass in his *Letter of July 9, 1919, to the Chairman on the Committee on Ways and Means* excludes postal expenditures in the first column, but fails to exclude them when making the deduction for peace expenditures. He consequently arrives at the figure of \$30,177 millions as the cost of the war. The total of \$30,918 millions given above does not, however, represent accurately the war expenditures, as the figures are based on the provisional daily treasury statements used by Secretary Glass. The correct total, arrived at in another way, will be found in table H below. But the above figures are the only ones available for calculating the monthly and daily expenditures.

215 billions. This may be accepted as a fairly accurate statement of the real money cost of the war.⁶

TABLE C.—TOTAL WAR EXPENDITURES
(In millions)

Great Britain.....	Aug. 4, 1914 - Mar. 31, 1919	£8,601	\$41,887
Australia	" " " - " " "	291	1,461
New Zealand.....	" " " - " " "	76	365
Canada	" " " - Aug. " "		1,545
South Africa	" " " - Mar. " "	33	243
India	" " " - " " "	119	584
<hr/>			
British Empire			\$46,085
France	Aug. 3, 1914 - Mar. 31, 1919	fr. 169,000	32,617
Russia	Aug. 1, 1914 - Oct. 31, 1917	ru. 51,500	26,522
Italy	May 23, 1915 - May " 1919	li. 81,016	15,636 ¹
Belgium	Aug. 2, 1914 - Oct. " 1918	fr. 5,900	1,387
Rumania	" 27, 1916 - " " "		907
Serbia	July 28, 1914 - " " "		635
United States	April 5, 1917 - June 30, 1919		32,261
<hr/>			
Entente Powers			156,050
Germany	Aug. 1, 1914 - Oct. 31, 1919	mk. 204,268	48,616 ²
Austria-Hungary..	July 28, " - July " " "	kr. 119,504	24,858 ³
Turkey	Nov. 3, " - Oct. " 1918		1,802
Bulgaria	Oct. 4, 1915 - " " "		732
<hr/>			
Central Powers			76,008
<hr/>			
Total			\$232,058
<hr/>			
Loans to Allies			
Great Britain		£1,739	\$8,467
France		fr. 6,700	1,293
Germany		mk. 9,500	2,261
United States			9,102
<hr/>			
Total			21,123
<hr/>			
Total net war expenditures.....			\$210,935

¹ The total expenditures were li. 91,016 millions. Deducting 10,000 millions for four years of peace expenditures leaves 81,016.

² Obtained by adding to the war debt as found in table R approximately 5 billion marks of war expenditures paid out of revenue.

³ Obtained by using the figures of war debt as found in table R.

II

The question now arises as to the steps taken by the various countries to meet these stupendous outlays. Of the older expedients, such as war treasures or the sale of public property, there was naturally no question. In Germany alone was there a war

⁶ These figures are considerably larger than those given by Ayres and other writers. But none of these authors uses the latest, and much augmented, official figures for France, Italy, and especially Germany.

treasure. But, as even this was so small as to be well nigh negligible, it follows that the only two available resources were taxation and borrowing.

When we compare these two expedients we are struck not only by the great difference in the theories of war finance followed by the various countries, but also by the diversity in the economic conditions which largely influenced the choice. In general, it may be said that all countries were compelled to rely to an overwhelming extent on public loans, but that Great Britain and the United States raised a greater share by taxation than did other countries. Italy, for instance, was able to secure by new taxation only just about enough to pay the interest on the war loans; Germany accomplished this only in part; while France was not in a position to defray any of her war expenses from taxation. The same is true of the other belligerents, with the exception of some of the British colonies.

Proceeding to consider this matter in detail, we shall first attempt to set forth the facts as to war taxation.

Great Britain, as the wealthiest of the belligerents, adopted at the outbreak of war the praiseworthy method of endeavoring to raise as much as possible from taxation. From year to year, as the expenses mounted up, continually more demands were made upon the taxpayer. The war expenditures were, however, so prodigious that it soon turned out to be impracticable to obtain more than a comparatively small proportion of the total outlay from taxation. The figures ordinarily advanced to illustrate this point do not, however, give a true picture of the situation. The statements made by the various chancellors of the exchequer, and repeated by all commentators, are based on the proportion that total taxes bear to total expenditures. This method of calculation, as will be seen from table D, shows that almost a quarter of the total expenditures or, to be more exact, 24.9 per cent, was derived from taxes. These figures, however, involve a double error. In the first place, the really significant problem is to ascertain the war expenditures, not simply the total expenditures. War expenditures can best be obtained, as we have seen, by deducting from the total annual expenditures the expenditures for the last full year of peace. In the second place, what is significant is not the total yield of all taxes, but the proceeds of war taxes, that is, the proceeds of the additional taxes raised during the war. These again can be obtained by deducting from the total tax revenue the

yield of the taxes during the last full year of peace. If then we endeavor to ascertain how much of the war expenditures were met by war taxes—and this is really the important problem—we find that, immense as were the burdens resting upon the British taxpayer, the percentage of war expenditures raised by war taxes was much smaller than is usually stated. As a matter of fact, as appears from table D, in the first year of war only a little over 7 per cent of the total war expenditures were raised from war taxes. With every succeeding year, indeed, the percentage increased until in the last year of war, 1918-1919, slightly over one quarter of the war expenditures were met from war taxes. For the entire five years, however, the proportion of war taxes to war expenditures was about 17 per cent. In other words, only a little more than one sixth of the war expenditures in Great Britain was derived from war taxes. Even if we exclude from the war expenditures the sums advanced to the Allies—and the Chancellor of the Exchequer,

TABLE D.—WAR EXPENDITURES OF GREAT BRITAIN.
(In millions sterling)

	Year ending March 30					Total for the five years 1915-1919
	1915	1916	1917	1918	1919	
	£	£	£	£	£	£
Total expenditures	560	1,559	2,198	2,696	2,579	9,592
War expenditures ¹	357	1,362	2,001	2,499	2,382	8,601
Loans to Allies and Dominions						1,739
Revenues other than loans	227	337	573	707	889	2,733
Tax revenues	189	290	514	613	784	2,390
War tax revenues ²	26	127	351	450	621	1,475
	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>
Proportion of total expenditures from non-loan revenues	40.5	21.6	25.1	26.2	34.1	28.1
Proportion of total expenditures from taxes	33.7	18.6	22.4	22.7	30.4	24.9
Proportion of war expenditures from war taxes	7.3	9.3	17.5	18.0	26.0	17.1
Proportion of net war expenditures (less loans to Allies and Dominions) from war taxes						21.2

¹ Obtained by deducting from the total expenditures each year the peace expenditures for 1914, amounting to 197 millions.

² Obtained by deducting from the tax revenues the 1914 tax revenue, amounting to 163 millions.

Mr. Chamberlain, thinks it safe to allow for only half of this amount—the proportion would be a little over 21 per cent or slightly more than one fifth. These figures are much less than is ordinarily stated. But even this proportion of revenue derived from taxation was sufficient to maintain the credit of Great Britain.

In the other belligerent countries, the showing was by no means so good. France struggled under a double difficulty. In the first place, France was invaded at the outset of the war; and the territory occupied, although relatively small in extent, represented the richest and the most industrially developed part of the country. This operated largely to reduce the ordinary revenue. In the second place, the resultant economic confusion, as well as the general political situation, rendered it difficult to impose any new taxes at all. The consequence, as will be seen from table E, was that for the first three years of the war the tax revenues of France were actually smaller than before the war and that as a result they did not suffice even to defray the ordinary peace expenditures, not to speak of making any contribution to war expenditures.

TABLE E.—REVENUES OF FRANCE.
(In million francs)

	1913	1914	1915	1916	1917	1918
Direct taxes	634	496	437	893	1,017	727
Tax on war profits.....	....	....	....	....	193	714
Tax on intangibles.....	138	153	158	181	242	252
Stamps	1,086	117	612	683	895	1,143
Indirect taxes	903	745	714	520	692	734
Import duties	754	577	764	1,556	1,785	1,314
Tax on sales.....	....	....	....	....	....	210
Monopolies	1,035	931	844	943	1,108	1,154
Miscellaneous	539	290	270	240	254	285
Total	5,089	3,982	3,801	4,818	6,306	6,533

After a while, indeed, France found it possible to levy some war taxes; but, as appears from table E, these were exceedingly slight compared with what had been accomplished in Great Britain. The consequence is that the new war taxes of France were only just about sufficient to make up the deficit in the ordinary peace budget—a deficit caused chiefly by the devastation of the occupied territory. In France, therefore, we may conclude that no part of the war expenditures was met by war taxes. A share of the responsibility for this fact must, however, be laid at the doors of the

government, which disclosed an unwarrantable timidity in levying taxes. The natural results of the adoption of the loan policy in the fiscal conduct of the war are seen in the exaggerated rise of prices, the depreciation of the franc, and the serious condition of finances in France today.

In Italy the situation was a little better. Italy had not been invaded, and its financial situation was not so desperate as that of France. Moreover, Italy entered the war somewhat later and was not compelled to endure the strain for so long a time. Italy consequently proceeded as soon as possible to levy new war taxes; but, as she had always been relatively overtaxed as compared with Great Britain, it was not feasible to do as much. As a result, the war taxes levied by Italy were just about sufficient to pay the interest on the war loans. While Italy, therefore, did better than France, she also was not able to defray any of the war expenditures proper out of war taxation.

The condition of Russia soon became worse than that of France and Italy; and even before the October revolution in 1917 Russia was able to put very little reliance upon revenue from war taxation.

Among the Central Powers the situation was much the same, but for a different reason. Germany at the outset of the war, had so confidently counted upon victory, with resultant huge indemnities, that it resolved to follow the loan policy, at all events so far as the imperial government was concerned. For it must be remembered, that in Germany a not insignificant part of the war expenses was met by the separate states; and in the states a considerable increase of taxation was provided for at once. As the war proceeded, however, and the hopes of a speedy and complete victory gradually faded away, Germany began to change her policy and now decided, especially from 1916 on, to impose more and more taxes. The result was that by the end of the war, Germany had done a little better than France although a little less well than Italy. The figures for the chief continental belligerents are given in table F.

If the latest figures as represented by Minister Erzberger are used, the showing is not appreciably more favorable. According to these figures, of the total war expenditures to October, 1919, of about 204 billion marks, about 5 billions were derived from other sources than loans.

We come, finally, to the experience of the United States. When

TABLE F.—REVENUES AND LOANS: FRANCE, ITALY, GERMANY.
(In millions)

FRANCE			
	Expenditures		Income
	<i>fr.</i>		<i>fr.</i>
Aug. 1, 1914-Mar. 31, 1919.....	174,500	Loans	159,400
Advances to Allies.....	6,700	Other revenues ..	22,500
	<hr/>		<hr/>
	181,200		181,900
Foreign debts and other minor items..	11,000		
	<hr/>		
Total	192,200		
Annual revenues before the war.....			5,000
Total peace revenues during the war period.....			24,000
Hence the total non-loan revenues during the war did not quite equal the peace revenues calculated on the pre-war basis.			
ITALY			
	Expenditures		Income
	<i>li.</i>		<i>li.</i>
May, 1915-June 30, 1918.....	87,516	Loans	64,132
Still due	3,500	Other revenues ..	26,034
	<hr/>		<hr/>
Total	91,016	Total	90,166
Annual peace revenues			2,687
Total peace revenues during the war period.....			13,435
Deducting 13,435 from 26,034 leaves as war revenue.....			12,599
Hence the war revenues barely sufficed to pay the interest on the war loans.			
GERMANY			
	Expenditures		Income
	<i>mk.</i>		<i>mk.</i>
Aug. 1, 1914-Dec. 31, 1918.....	170,300	Loans	153,000
		Other revenues ..	17,000
			<hr/>
		Total	170,000
Annual peace revenues (1913).....			3,200
Total peace revenues for 4½ years of war.....			14,400
Deducting 14,400 from 17,000 leaves as war revenue.....			2,600

the United States entered the war, it was confronted by the two rival theories of public finance. One was to the effect that the war expenses should be defrayed entirely by loans, as had been the case in the early years of the Civil War and which was true, as we have just seen, of many of the belligerents during this war. The other theory, advanced especially in the famous Minnesota memorandum, was that the war expenditures ought to be defrayed entirely out of war taxes. This theory was equally as extreme and as perilous as the loan policy and labored under the additional disadvantage of being impossible of achievement. The President went so far as to proclaim the fifty-fifty per cent theory, namely that one half of the war expenditures ought to be defrayed from war taxation. But even this turned out, as was to have been

expected and as was pointed out by the present writer among others, to be far more than was possible.

The prodigious profits made during the opening years of the European war and the resulting prosperity throughout the country enabled Congress to levy taxes far higher than had ever before been attempted in our history. Even with an immense addition to taxation, however, the proportion derived from war taxes was relatively small, and in fact considerably smaller than is ordinarily stated. Here, again, we must observe the same caution as in the case of the British figures. We must not compare the total expenditures of the war period with the total taxes of the war period, but war expenditures with war taxes—which is something very different. In tables G and H an attempt is made, on the basis of certain official figures, to arrive at correct results. The explanation of the methods of calculation is found in the notes appended to the tables; and the reasons for the difference between the results here given and the statements of the secretaries of the treasury are presented in the general note below.⁷

⁷ The figures contained in tables G and H, unless otherwise stated or calculated from preceding figures, are taken from the annual *Report of the Secretary of the Treasury on the Finances* for the year 1918. For 1919 where the annual report is not yet available we have taken the figures as presented by Secretary Glass in his *Letter of July 9, 1919 to the Chairman of the Committee of Ways and Means*. The figures for postal revenues and expenditures are the estimates of the department.

The figures as presented in the tables, do not, however, always agree with the official statements. In the first place it is difficult to know what are the official figures, as they frequently differ among themselves. For instance, the figures found in the tables of the *Annual Report* for 1918, pages 480 *et seq.* (hereinafter called A), do not tally with those in the text of Secretary McAdoo's comments in the *Annual Report*, pages 3-5 (hereinafter called B), nor with the figures of Secretary Glass in his *Letter of July 9* (hereinafter called C). In some cases the discrepancies are serious.

Thus in A the receipts for 1917 are given (including postal receipts of 330 millions) as 3,845 millions; in B, as 3,552 (excluding postal). For 1918 again, the receipts are given in A as 21,490 millions (including postal receipts of 344 millions); in B, as 21,155 millions (excluding postal). In A the disbursements for 1917 are given as 3,046 millions (including postal disbursements of 320 millions); in B, as 2,704 (excluding postal). For 1918 the respective discrepancies are: A, 21,813; B, 20,903. Even in minor details there are no agreements. Thus public debt receipts are given for 1917 in A as 2,391 millions; in B, as 2,428 millions. For 1918 the figures are respectively: A, 16,965; B, 16,975. Public debt disbursements are given for 1917 in A as 637; in B, as 678 millions. For 1918 they are given in A as 7,685; in B, as 7,707 millions. If there is any significance in the fact that A gives tables of

As a result of the calculations found in tables G and H it appears that during the first quarter year of war, ending June 30, 1917, the proportion of war expenditures derived from war "Receipts and Disbursements" while B gives tables of "Receipts and Expenditures," it is not apparent from the report itself.

The discrepancies between A and C are more glaring. But as Secretary Glass is able to present only preliminary figures for the respective periods, on the basis of the daily treasury statements, these discrepancies may be overlooked.

In the second place, considerable confusion results from the absurd system still followed in the United States, whereby postal revenues and expenditures go through the post office accounts and only the surplus or deficiency passes through the treasury accounts. Several years ago the present writer succeeded in inducing the Treasury Department to bring about a change to this extent that the annual treasury statements are now made up in both ways, *viz.*, as revenues and expenditures inclusive and exclusive of postal revenues and expenditures respectively. Yet these differences are often overlooked. For instance, when Secretary Glass discusses in his *Letter of July 9, 1919*, the cost of the war, he employs the daily treasury statements which do not include the postal figures. As a consequence, his statement of total revenues and expenditures are quite different from those of Secretary McAdoo in the latter's discussion of the cost of the war.

In the third place, neither Secretary McAdoo nor Secretary Glass, in calculating the proportion borne by loans and taxes in meeting the war expenses, attempts to ascertain the really significant fact—*viz.*, the proportion of war expenditures met from war taxes. None of the official figures are of any help here.

The present writer has therefore been compelled to make his own calculations. Whenever possible, the figures have been taken from the statements in the detailed tables published in the *Annual Report* of the Secretary of the Treasury. The combinations, however, as found in this article are not presented anywhere in the official statements.

Some of the results reached in this article which differ materially from the official statements, are as follows:

The total cost of the war to June 30, 1919, is given by Secretary Glass as \$30,117 millions, whereas the more accurate computation results in a total cost of \$32,261 millions. Secretary Glass's figures involve a double error. In the first place, they are based on the preliminary daily treasury statements which are confessedly not final; and, as explained in the note to table B (p. 746 *supra*), he fails to allow for postal expenditures. Again, Secretary McAdoo states that in 1917 55 per cent of the expenditures were paid from revenue receipts, and in 1918 31.6 per cent; whereas the correct figures are 60.4 per cent and 33.8 per cent respectively, and the really significant figures (the proportion of war expenditures from war taxes) are 30 and 24.8 per cent respectively. In the same way, Secretary Glass states that 29 per cent of the expenditures for the war period were met from tax receipts and other revenue, whereas the correct figures are 33.2 per cent, and the really significant figure is 23.3 per cent.

taxes was less than one third or, more exactly, 30 per cent. If we exclude from the expenditures the loans to the Allies, on the assumption that they will all be repaid some day, the showing in the first three months is, of course, much better, as two thirds of the expenditures of that period consisted of such loans. However, as soon as we struck our full gait, the situation was far less satisfactory. During the year 1917-1918 the proportion of war expenditures derived from war taxes was less than a quarter or, more exactly, only 24.8 per cent; and even if we again exclude loans to Allies, which now constituted about one third of the whole, only 30 per cent of the expenditures were derived from war taxes. In the final year of the war the showing was still less favorable, the figures being respectively 21.7 per cent and 27 per cent, *i.e.*, a little over one fifth or one fourth respectively. For the entire period of our participation in the war it appears that less than one fourth (or exactly 23.3 per cent) of the war expenditures were paid out of war taxes. And if the loans to Allies are again excluded, the proportion is still under one third or, more exactly, 32.5 per cent.

These figures disclose two significant facts. In the first place, the relative revenue derived from war taxes became smaller, instead of larger, as the war proceeded. This unusual and unexpected result is, of course, due to the stupendous growth of war expenditures which rapidly overtook even the largely increased revenues from war taxes. It was impossible, even by stretching the tax revenues to the utmost, to begin to keep pace with the huge growth in the war outlays. In the second place, we are struck by the great disparity between the actual facts and the fifty-fifty per cent program originally suggested by Secretary McAdoo and adopted in the recommendation of President Wilson—not to speak of the 100 per cent program of the Minnesota memorialists.

III

The next point of interest is the character of the war taxes imposed by the various countries. Here again we notice great variations. Although the policy of taking a substantial share of war profits by taxation was almost everywhere adopted as a matter of principle, it was applied very differently in various countries. As a matter of fact, in almost all of the continental countries, about as much additional revenue was raised from indirect as from direct

TABLE G.—RECEIPTS AND DISBURSEMENTS OF THE UNITED STATES, 1915-1919.
(In millions)

Receipts	Year ending June 30				
	1915	1916	1917	1918	1919
Customs	\$211	\$213	\$226	\$183	\$184 ¹
Internal revenue	416	513	809	3,696	4,316 ¹
Miscellaneous	71	52	81	293	646 ¹
Total ordinary receipts	698	780	1,119	4,174	5,152 ³
Panama canal .....	....	....	6	6	6 ¹
Excess of deposits to retire national banknotes	4	32	....	....	....
Postal receipts	287	312	330	344	354 ⁴
Total (exclusive of principal of public debt) ²	989	1,126	1,455	4,795	5,506
Public debt receipts...	1	2	2,391	16,695	29,300 ⁵
Total	990	1,128	3,845	21,490	34,806 ⁵
Disbursements					
Ordinary (exclusive of postal)	\$725	\$719	\$2,067	\$13,769 ⁹	\$18,515 ¹⁰
Including loans to Allies	....	....	(885) ⁷	(4,738) ⁷	(3,479) ⁷
Panama	29	18	19	21	....
Postal	294	312	320	327	354 ¹¹
Excess of national banknotes retired over deposits .....	....	....	3	11	....
Total (exclusive of principal of public debt)	1,048 ⁸	1,048 ⁸	2,409 ⁸	14,127 ⁸	18,869 ¹²
Public debt disbursements	0.05	0.04	637	7,686	15,860 ¹³
Total	\$1,048	\$1,048	\$3,046	\$21,813	\$34,729 ¹⁴

¹ From the *Letter of Secretary Glass to the Chairman of the Committee of Ways and Means, July 9, 1919.*

² Obtained by deducting from the "total of all receipts" in the *Report of the Secretary of the Treasury, 1918*, p. 484, the "total public debt receipts," *ibid.*

³ Includes the 6 millions Panama receipts.

⁴ Estimated, by the Secretary of the Treasury (*Annual Report, 1918*, p. 145).

⁵ Obtained by deducting from the "public debt receipts, Apr. 6, 1917-June 30, 1919," as given by Secretary Glass in his *Letter of July 9, 1919* (48,386 millions) the public debt receipts as stated in table above for 1917 and 1918.

⁶ Obtained by adding the various items specified.

⁷ As stated by Secretary Glass in his *Letter of July 9, 1919*, p. 4.

⁸ Obtained by deducting from total the public debt disbursements.

⁹ As stated in the *Annual Report on the Finances*. Secretary Glass (*op. cit.*, p. 4) gives total disbursements other than principal of public debt as 12,697 millions.

¹⁰ As stated by Secretary Glass, *op. cit.*, p. 4.

¹¹ As estimated by Secretary McAdoo in the *Annual Report* for 1918.

¹² Obtained by adding the two items above.

¹³ Obtained by deducting from the public debt disbursements, Apr. 5, 1917-June 30, 1919, as stated by Secretary Glass, *op. cit.* (\$24,183) the public debt disbursements for 1917 and 1918, as given above in the table.

¹⁴ Obtained by adding the two items above.

TABLE H.—RECEIPTS AND EXPENDITURES OF THE UNITED STATES, APRIL 5, 1917-JUNE 30, 1919.
(In millions)

	1917	1918	1919	Total for period Apr. 5, 1917-June 30, 1919
Total disbursements ¹	\$3,046	\$21,813	\$34,729	\$59,588 ⁵
Total expenditures, exclusive of principal of the public debt ¹	2,409	14,127	18,869	35,405 ⁵
War expenditures ²	1,361	13,079	17,821	32,261
Loans to Allies ¹	885	4,738	3,479	9,102
War expenditures exclusive of loans to Allies.....	476	8,341	14,342	23,159
Revenue exclusive of public debt ¹	1,455	4,795	5,506	11,756
Tax revenues ³	1,035	3,879	4,500	9,414
War tax revenues ⁴	409	3,253	3,874	7,536
	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>	<i>P.c.</i>
Proportion of total expenditures from non-loan revenues....	60.4	33.8	29.1	33.2
Proportion of total expenditures from taxes	42.9	27.4	23.8	26.5
Proportion of war expenditures from war taxes.....	30.	24.8	21.7	23.3
Proportion of war expenditures exclusive of loans to Allies from war taxes.....	85.7	39.	27.	32.5

¹ From table G.² Obtained by deducting from total expenditures the (peace) expenditures of 1915 (\$1,048).³ Obtained by adding the customs and the internal revenue.⁴ Obtained by deducting from the tax revenues the tax revenues for 1915 (626 millions).⁵ Total for the three fiscal years 1917, 1918, 1919.

taxation. Indeed, in France considerably more revenue was designed to be raised from indirect taxes, including taxes on consumption, than from direct taxation or taxes on wealth. The respective figures, as appears from table I, are about 60 per cent for indirect and 40 per cent for direct taxes. In actual result, the increase due to indirect taxation was not so great as had been expected, due partly to the fact that the war profits tax yielded much more than had been anticipated (907 million francs instead of 540 millions), but above all because the tax on sales produced in the first year far less than had been hoped for (210 instead of 800 million francs). As a consequence, the proportions derived from direct and indirect taxes were actually just the reverse of those mentioned above, namely about 60 per cent from direct and about 40 per cent from indirect taxes.

TABLE I.—REVENUE EXPECTED FROM INCREASED TAXES IN FRANCE, 1914-1918.
(In million francs)

Direct		Indirect	
War profits tax.....	540	Alcoholic drinks	75
Military war tax.....	12.5	Non-alcoholic drinks.	85
Income tax	250	Druggists specialties.	12
"Assimilated taxes" ..	24	Sugar	90
Inheritance tax	148	Colonial products	70
Intangibles	38	Tobacco	80
Land tax	30	Postage	58.5
		Theatres	10
		Sales	800
	<hr/> 1,042.5		<hr/> 1,280.5
Additions of June, 1918:		Additions of June, 1918:	
Income tax } ...	56	Stamp taxes	76
Inheritance tax }		Other indirect taxes	333
	<hr/> 1,098.5		<hr/> 1,689.5
	or 39.3 per cent		or 60.7 per cent

In Italy, where the new war taxes were imposed at once in 1915, it was expected that the war profits tax (at the rate of from 8 to 20 per cent) would yield about 55 million lire, and the augmented taxes on incomes and business about 220 millions, or a total of 275 millions from direct taxes compared with an estimated revenue of 110 millions from various increases in indirect taxes.

In 1916, however, while the rate of the war profits tax was increased so as to vary from 20 to 60 per cent and that of the income tax to about 16 per cent, the stamp taxes were raised and the number of state monopolies was increased. The same policy was followed during the next year so that by the end of the war, in addition to the old government monopolies on tobacco, salt, matches, lotteries, and cards, we now find monopolies on coffee, paraffine, and mineral oils, quinine, and various minor objects. The result was that in 1918 just about as much additional revenue was derived from the new indirect taxes as from the new direct taxes. The exact figures are as follows: the direct taxes, technically so called, yielded 1500 million lire and the business taxes 560 millions, or a total of 2,060 millions. On the other hand, the increased revenue from monopolies amounted to 1,060 millions and that from the new consumption taxes 950 millions, or a total of 2,010 millions. In Italy, therefore, the balance was kept just about even between the two great categories of taxation.

In Germany when the government finally decided to resort to taxation in 1915, no effort was made to impose any new taxes on

incomes or inheritances. For the feeling was still very strong that income and property taxes ought to be left to the separate states, which had in the meantime considerably increased their revenue from such sources. A federal tax on war profits was, however, imposed. On the other hand, the tax on tobacco was largely increased, a high tax was levied on bills of lading, and a considerable augmentation was made in postal, telegraph, and telephone rates. From all these sources an additional revenue of about 500 million marks was expected. When the bill passed through the Reichstag, a tax on sales was added, estimated to yield about 130 millions. In the next year, 1917, the war profits tax was considerably increased, so as to produce about 400 million marks additional; but, on the other hand, a high tax on coal was now imposed, designed to yield 500 million marks and provision was made for a tax on railroad transportation to yield 310 millions. Finally, in 1918, the government recognized the necessity for very much greater revenues from taxation and a law provided for additional receipts estimated at 3 billions of marks, on the one hand, from an increased tax on war profits and, on the other, from taxes on sales, luxuries, and higher rates on drinks and postal communication. The exact figures as to the proportion between the two categories of taxation are not yet available; but it is quite safe to say that in the federal government, at least, the revenue from indirect taxes considerably exceeded that from direct taxes. In the separate commonwealths the situation was the reverse, without, however, materially changing the general result.

In contrast to all the continental countries, England pursued from the outset a different path. It is true that a considerable increase of revenue was derived from indirect taxes like customs and excises. From 1914 to 1919, for instance, the customs revenues were actually trebled and the yield of the excise taxes increased about 50 per cent. But the chief reliance for meeting the war expenditures was placed on a new war profits tax and an augmented income tax. The rate of the war profits tax was raised gradually from 50 to 60, and finally to 80 per cent; and the income tax rates were progressively increased until from a quarter to a third of very moderate incomes and over a half of larger incomes were taken for the state. In the last year of the war, as appears from table K, over three quarters of the tax revenue was derived from direct taxes on wealth. This is a great contrast to the fiscal history of previous wars.

TABLE K.—SOURCES OF REVENUE IN GREAT BRITAIN, 1914-1919.
(In millions)

	Year ending March 30											
	1914		1915		1916		1917		1918		1919	
	£	P.c.	£	P.c.	£	P.c.	£	P.c.	£	P.c.	£	P.c.
Customs	35	17.8	39	6.9	60	4	71	3	71	3.3	103	4
Excise	40	20	42	7.5	61	4	56	2.2	39	1.4	59	2.2
Estate duties	27	13.8	28	5	31	2	31	1.4	32	1.2	30	1.1
Stamps	10	5	6	1.3	7	0.4	8	0.3	8	0.3	12	0.5
Land tax .....	.7	0.4	.7	0.1	.7	0.04	.6	0.03	.7	0.04	.6	0.02
House duty	2	1	2	0.3	2	0.1	2	0.09	2	0.09	2	0.7
Income tax	47	23.8	69	12.4	128	9	205	9	240	8.9	291	11.2
Excess profits tax.	—	—	—	—	.1	0.01	140	6	220	7.3	285	11
Land values tax..	.7	0.4	.4	0.1	.4	0.02	.5	0.03	.7	0.03	.7	0.02
Total tax revenues	163	82.2	189	33.6	290	19.17	514	22.27	613	22.56	784	30.74
Postal, Telg., Tel..	31	15.5	30	5.3	34	2.1	34	1.4	35	1.4	40	1.6
Crown lands.....	.5	0.3	.5	0.1	.5	0.03	.6	0.03	.7	0.04	.8	0.02
Suez Canal shares.	2	1	1	0.3	2	1	8	0.2	6	0.3	12	0.44
Miscellaneous	2	1	6	1	10	0.7	17	0.5	52	2	52	2
Non-tax revenues	35	17.8	37	6.8	47	3.83	59	2.13	94	3.74	105	4.06
Total tax and non-tax revenues	198	100	227	40.4	337	23	573	24.4	707	26.3	889	34.8
Loans	3		407	59.6	1,165	77	1,626	75.6	1,983	73.7	1,682	65.2
Total revenues..	202		633	100	1,501	100	2,199	100	2,691	100	2,571	100
Total expenditures	197		560		1,559		2,198		2,696		2,579	
Interest on debt.	24		23		60		127		190		270	

In the United States, also, we find the democratic movement so strong that the overwhelming proportion of the new tax revenue was derived from direct taxation on wealth rather than from indirect taxes on consumption or transactions. Although the excess profits tax was not at first levied at rates as high as in Great Britain, the remarkable prosperity of the country resulted in large revenues from this source. And while the income tax did not reach in the lower stages so high a level as the British, the rates in the upper schedules were made considerably higher, finally attaining the unheard of figures of 77 per cent. As a result of the revenue act of 1917 over 79 per cent of the tax revenue came from direct taxation, principally the income tax and the excess profits tax. As a consequence of the second great revenue act of 1918, the proportions were still more favorable, the amount ascribable to direct taxation in 1919 being, as appears from table L, in reality almost 81 per cent although the introduction of the system of payment by instalments somewhat obscures this result.

TABLE L.—INTERNAL REVENUE RECEIPTS OF THE UNITED STATES, 1918, 1919.
(In millions)

	Year ending June 30	
	1918	1919
Income and profits taxes.	\$2,839	\$2,596 ¹
Munition manufacturers tax	13	—
Estate tax	47	82
Corporate capital stock tax	25	29
Total taxes on wealth..	2,924 or 79.1 per cent	2,707 or 70.5 per cent
Distilled spirits	318	365
Fermented liquors	126	118
Tobacco	158	206
Stamp taxes	19	37
Transportation	71	234
Insurance	6	15
Excise taxes	37	78
Soft drinks	2	7
Admissions	26	51
Miscellaneous	8	22
Total taxes on consumption, transactions, and commodities	\$771 or 20.9 per cent	\$1,133 or 29.5 per cent
Total	\$3,695	\$3,840

¹ As the new taxes are payable in instalments, about 2 billions of the 1919 tax will not be received until the fiscal year 1920. Making allowance for this, the proportion of taxes on wealth really ascribable to the year 1919 rises to 80.6 per cent.

It thus appears that the United States succeeded even better than Great Britain in carrying through a democratic fiscal program in the war; and that the Anglo-Saxon countries disclose a very decided contrast to all the other belligerents. The consequences are apparent in the relatively more favorable situation in which Great Britain and the United States find themselves when confronting the problems of *post-bellum* finance.

IV

With the impossibility of securing more than a comparatively small proportion of the war expenditures from taxation, it became necessary everywhere to resort to borrowing. This was consequently done by all countries on a gigantic scale; although here again the fiscal and economic conditions in the various countries varied so widely that they employed quite diverse expedients.

Great Britain provided at the outset of the war for immediate needs by selling short-time securities, principally treasury bills. Before long, however, these had accumulated to such an extent that it became imperative to issue long-time bonds. Accordingly, subscriptions were invited to the first war loan which was issued in March, 1915, followed in June of the same year by a second war loan. These bore interest at the rate of $3\frac{1}{2}$ per cent and $4\frac{1}{2}$ per cent respectively and the amount issued was 332 and 592 millions sterling or 1,703 and 2,883 million dollars respectively. On February, 1916, an issue of war savings certificates was inaugurated. In April, 1917, the third war loan was issued at 4.5 per cent, yielding 941 millions sterling, or 4,403 million dollars, followed in June of the same year by an issue of 5 per cent exchequer bonds.

Beginning in October, 1917, a continuous issue of 4 per cent and 5 per cent national war bonds was made, the difference in the rate of interest being due to the tax exemption. The temporary and short-time paper was now gradually funded into these bonds. In the meantime the Anglo-French loan of 500 million dollars, of which England had one half, had been contracted in the United States; and with the entrance of the United States into the war, continually larger sums were borrowed from the American government. By the end of 1918, as will be seen from table M, almost 4 billions sterling, or considerably more than one half of the new debt, was in the form of relatively long-time domestic securities.

France was in a less favorable situation than Great Britain at the outbreak of the war. The total debt of France at the close of 1913 amounted to 32,594 million francs or 6,291 million dollars, and the ordinary budget had closed with a large deficit, so that it had been necessary to issue a loan during the spring and summer of 1914. When the war broke out, precipitating an economic and financial crash, it became practically impossible to issue another loan. The government was therefore compelled to rely upon advances from the Banque de France which was permitted correspondingly to increase its note issue. It was not until November, 1915, that France saw her way to invite subscriptions to her first war loan, which, although bearing interest at the rate of 5 per cent was issued at the low price of $87\frac{1}{4}$. This was followed in August, 1916, by the second war loan, also of 5 per cent bonds. In December, 1917, the third war loan was contracted and

in 1918 the fourth war loan. In these two latter cases France reverted to her old policy of discount bonds so that the issues fetched the price of only about 70. The nominal subscriptions to the loans were therefore quite different from the actual receipts in cash. Even the nominal sums yielded by these four loans, however, amounted to less than 70 billions of francs, so that the chief reliance of France had to be placed on floating debts like advances from the bank of France, on the so-called national defense bonds, which were issued continuously from February, 1915, and, finally, on the foreign loans contracted in England, United States, and Japan. The internal loans as a consequence constitute only about 40 per cent of the war debt, a result which is now proving a serious embarrassment in the French program of fiscal reconstruction.

Russia was the first of the Entente Powers to contract public loans. In September, 1914, Russia began with a 5 per cent issue at 94, followed at regular intervals up to the revolution of 1917 by six more loans. At that time about 6 billion dollars had been raised by relatively long-time securities, constituting, however, only a very small part of the entire debt.

Somewhat similar difficulties were experienced by Italy. The pre-war debt of Italy amounted to 13,636 million lire or 2,621 million dollars. Italy started in 1915 with the so-called mobilization loan followed by the first war loan in July, 1915, and by further war loans in January of each of the following years. Every successive loan showed an increase of the interest rate and a decrease of the issue price, thus disclosing the growing fiscal difficulties. The total proceeds of the internal war loans, as appears from table M, were only about 15 million lire. Italy, therefore, had also to depend primarily upon short-time securities, like treasury bonds and exchequer bills, upon advances from the banks, and upon loans from the Allies. As a matter of fact, less than 30 per cent of the new war debt consists of long-time internal war bonds.

Of the Central Powers, Germany followed a different plan from the outset. She decided to rely at once upon comparatively long-time bonds rather than upon temporary or short-time securities, and for several years prided herself upon her superiority in this respect over Great Britain and France. In October, 1914, a large war loan was issued at 5 per cent. There followed in regular succession eight more war loans bearing $4\frac{1}{2}$ per cent and 5 per cent respectively. During the earlier years of the war, accordingly,

the loan situation of Germany must be pronounced to have been more favorable than that of the other belligerents. Toward the end, however, as the difficulties increased, the internal loans did not suffice and Germany, like France and Italy, was now compelled to depend more and more upon a makeshift policy. Nevertheless, by the end of 1918, 98 billion marks out of a total war debt of 153 billions or about 64 per cent of the whole, was in the form of long-time internal bonds. This was a better showing than that of any of the other countries.

When the United States entered the war it depended for the time being on temporary war certificates. It was, however, soon decided to make a bold appeal to the public, and in June, 1917, subscriptions were invited to the first liberty loan, which was issued at par bearing interest at the rate of $3\frac{1}{2}$ per cent. Although the immense sum of 2 billion dollars was raised by the first loan, still greater efforts were made in the succeeding loans. In November, 1917, the second liberty loan was issued and, despite the original objections of Secretary McAdoo, it was found necessary to raise the rate of interest to 4 per cent. The loan yielded almost 4 billion dollars. In May, 1918, the third liberty loan was issued at $4\frac{1}{4}$ per cent interest, yielding over 4 billions. The greatest effort was, however, made in January, 1918, when subscriptions were invited to the fourth liberty loan, bearing $4\frac{1}{4}$ per cent interest, with a result that the unheard of sum of almost 7 billion dollars was subscribed. The last, or victory loan, was issued in April, 1919, bearing $4\frac{3}{4}$ per cent interest, and yielding about $5\frac{1}{4}$ billions. The consequence is that almost the entire war debt of the United States consists of relatively long-time and easily manageable domestic securities. In table M will be found the relevant facts as to the successive war loans of the chief belligerents.

Passing from the problem of long-time versus temporary loans, the final question is that of the total indebtedness of the various belligerents.

In Great Britain it still seems to be a question as to whether and to what extent the loans to the Allies are to be included in the war debt. The Chancellor of the Exchequer, as stated above, thinks it prudent to include one half of the amount. The result is, as shown in table N, that the British debt which amounted to 650 millions sterling, or 3,115 millions of dollars, just before the war, rose by the close of the fiscal year in 1919 to a total of 7,643

TABLE M.—WAR LOANS.

(In millions)

	Date	Rate	Issue price	Amount subscribed
<i>Great Britain</i>				
First war loan....	Mar., 1915	3 $\frac{1}{2}$	95	£ 332
Second " "	June "	4 $\frac{1}{2}$	100	592
Third " "	Apr., 1917	4 - 5	95 - 100	941
Exchequer bonds..	Mar., 1915	3	"	48
" " ..	Dec., 1915 - Apr., 1917	5	100	516
" " ..	Oct., 1916	6	"	161
National war bonds	Oct., 1917 - Oct., 1918	4 - 5	100 - 100 $\frac{1}{2}$	372
Total				3,962
<i>France</i>				
First war loan....	Nov., 1915	5	87 $\frac{1}{4}$	fr. 15,205 ¹
Second " "	Aug., 1916	"	88 $\frac{3}{4}$	11,514 ¹
Third " "	Dec., 1917	4	68.6	14,803 ¹
Fourth " "	" 1918	"	70.8	27,853 ¹
Total				69,375 ¹
<i>Italy</i>				
Mobilization loan..	Jan., 1915	4 $\frac{1}{2}$	97	li. 1,000
First war loan....	July "	"	93 - 95	1,146
Second " "	Jan., 1916	5	97 $\frac{1}{2}$	3,014
Third " "	" 1917	"	90	3,985
Fourth " "	" 1918	"	86 $\frac{1}{2}$	6,120
Total				15,266
<i>Russia</i>				
First war loan....	Sept., 1914	5	94	ru. 500
Second " "	Mar., 1915	"	"	500
Third " "	May "	5-5 $\frac{1}{2}$	99	1,000
Fourth " "	Nov. "	5 $\frac{1}{2}$	95	1,000
Fifth " "	Feb., 1916	"	"	2,000
Sixth " "	Oct. "	"	"	3,000
Seventh " "	Mar., 1917	5	85	2,500
Total				10,500
<i>Germany</i>				
First war loan....	Sept., 1914	5	97 $\frac{1}{2}$	Mk. 4,480
Second " "	Mar., 1915	"	98 $\frac{1}{2}$	9,106
Third " "	Sept. "	"	99	12,162
Fourth " "	Mar., 1916	4 $\frac{1}{2}$ -5	95-98 $\frac{1}{2}$	10,767
Fifth " "	Sept. "	"	95-98	10,699
Sixth " "	Mar., 1917	" "	98	12,979
Seventh " "	Sept. "	" "	"	12,626
Eighth " "	Mar., 1918	" "	"	14,789
Ninth " "	Sept. "	" "	"	10,434
Total				98,052
<i>United States</i>				
First liberty loan..	June, 1917	3 $\frac{1}{2}$	100	\$ 2,000
Second " " ..	Nov. "	4	"	3,908
Third " " ..	May, 1918	4 $\frac{1}{4}$	"	4,177
Fourth " " ..	Sept. "	"	"	6,989
Victory loan.....	Apr., 1919	4 $\frac{3}{4}$	"	5,250
Total				22,225

¹ Nominal subscription.

millions sterling or \$37,221 millions of dollars. Inasmuch, however, as the Chancellor of the Exchequer asserted in his financial statement of April 30, 1919, that he expected to borrow about 250 millions sterling, or 1,217 millions of dollars, during the year 1919-1920, the debt of Great Britain at the end of 1920 will amount to almost 8 billions sterling or about 39 billion dollars. The war debt proper, therefore, at the end of that period may be expected to amount to $7\frac{1}{4}$ billions sterling or 35 billion dollars.

TABLE N.—PUBLIC DEBT OF GREAT BRITAIN.
(In millions)

	Year ending March 31					
	1914	1915	1916	1917	1918	1919
	£	£	£	£	£	£
Funded debt	587	583	318	318	318	318
Terminable annuities	30	28	26	24	22	22
3 $\frac{1}{2}$ per cent bonds	—	349	63	63	63	63
4 $\frac{1}{2}$ per cent bonds	—	—	900	20	16	16
4 and 5 per cent bonds	—	—	—	2,119	2,090	2,090
National war bonds	—	—	—	—	649	1,716
Treasury bills	13	77	567	464	473	947
Exchequer bonds	20	67	177	320	392	393
War savings certificates	—	—	1	74	138	227
War expenditure certificates	—	—	—	24	23	—
"Other debts"	—	—	9	317	944	1,345
American loan	—	—	51	51	51	51
Total	650	1,104	2,133	4,011	5,872	7,643 ¹

¹ This includes £207 millions of sinking fund premiums, which when deducted would bring the net debt to 7,435 millions.

This total includes the loans to the Allies and Dominions:

(In millions)	
Russia	£568
France	434
Italy	413
Belgium	87
Serbia	19
Other Allies	48
Total Allies	£1,568
Dominions	171
Total	£1,739

In France, where the pre-war debt was 32,594 millions of francs or 6,291 millions of dollars, the total debt at the end of 1918 amounted to 167,469 millions or 32,322 millions of dollars, constituting a relatively more crushing burden than that of Great Britain. The war debt proper as will be seen in table O, amounted to 134,875 millions of francs or 26,031 millions of dollars. In-

asmuch, however, as it is virtually certain that a considerable sum will still have to be borrowed during 1919, the total war debt of France, will, in all probability amount to 27 or 28 billions of dollars.

TABLE O.—PUBLIC DEBT OF FRANCE, DECEMBER 31, 1918.
(In million francs)

Domestic debt	136,874
Funded debt	67,739
including: 3 per cent rentes.....	19,746
5 " " "	25,853
4 " " "	12,850
4 " " " of 1918.....	30,000
3 and 3 ½ redeemable.....	3,118
Floating debt	49,136
including: national defense bonds.....	29,463
advances from Banque de France.....	18,000
Foreign debt	30,595
Funded debt	15,127
including: advances from U. S. government.....	12,001
Anglo-French loan in U. S.....	1,376
other loans from U. S.....	1,602
Japanese loan	147
Floating debt	15,471
Total	167,469=\$32,322
Pre-war debt in 1913	32,594=\$6,291
War debt	134,875=\$26,031

In Italy the pre-war debt was 13,636 millions of lire. At the end of October, 1918, as will be seen from table P, the total debt amounted to over 63 billions of lire or somewhat more than 12 billions of dollars, making the war debt proper, about 50 billions of lire or 10 billions of dollars. By the end of May, 1919, the debt had grown to over 77 billions of lire or 15 billions of dollars, and the end is not yet. This represents a very disproportionate burden as compared with the British figures.

TABLE P.—PUBLIC DEBT OF ITALY, AUGUST 31, 1918.
(In million lire)

Pre-war debt	13,636
War loans	14,737
Treasury bonds	3,052
Exchequer bills	9,240
Foreign advances from England and the United States....	13,850
Advances from banks.....	6,536
Notes issued by the government.....	2,041
Total	63,093 = \$12,177
By May 31, 1919, the total debt had increased to....	77,768 = \$15,069

For Germany, where the pre-war debt amounted to 4,732 million marks, the figures are not yet entirely complete. Minister Schiffer stated in February, 1919, that the debt had grown by the end of 1918 to 157,700 million marks. But Minister Erzberger

stated in his Reichstag speech of October 31, 1919, that the total debt now amounted to 204 billions of marks, which would make the war debt over 199 billions of marks or 47,726 millions of dollars—the largest debt of all the belligerents. It must be remembered, however, that the great depreciation of the mark during the period when most of the debt was contracted reduces the actual American equivalent considerably.

In Austria-Hungary, the pre-war debt was 18,354 million crowns or 3,726 million dollars. In August, 1919, the new Austria which by treaty assumed 70 per cent of the total war debt of the old empire had a war debt composed as follows: war loans, 35 billion crowns; other war debt, 11½ billions; bank notes, 50 billions, or a total of 96½ billions. At the rate of 70 per cent this would make the total war debt of the old empire now divided among various states, 137,858 million crowns or 28,584 million dollars. But the same caution as to the depreciation of the currency must be observed here.

In the United States the total net debt just before the entrance into the war, in April, 1917, was \$1,190 millions. This had increased by June 30, 1919, to \$24,232 millions, making a war debt of \$23,042 millions. The debt, as appears from table Q, is composed almost wholly of war bonds, together with a relatively small amount of outstanding treasury certificates. Inasmuch, however, as somewhat over a billion dollars from the victory loan

TABLE Q.—PUBLIC DEBT OF THE UNITED STATES.
(In millions)

Date	Debt less cash in Treasury	Annual interest charge
Apr. 15, 1917.....	\$1,189	\$23
June 30, 1917.....	1,909	84
“ “ 1918.....	10,924	466
“ “ 1919: Bonds:		
Pre-war bonds	833	
First liberty loan.....	\$1,985	
Second “	3,566	
Third “	3,959	
Fourth “	6,795	
Victory loan (notes).....	3,468	
	<hr/> 20,455	
Treasury certificates	3,634	
Old debt on which interest increased	2	
Non-interest-bearing debt	236	
	<hr/> 25,485	
Total gross debt	25,485	
Cash on hand	1,252	
	<hr/>	
Net debt	\$24,233	\$619

TABLE R.—PUBLIC DEBTS OF BELLIGERENTS.
(In millions)

	Before the war		After the war		War debt
Great Britain	Aug. 4, 1914	£650 = \$3,165	Mar. 31, 1919	£7,643 ¹ = \$37,221	\$34,056
Australia	" "	97 = 472	Jan. " "	336 = 1,634	1,162
Canada	" "	332	Aug. " "	1,684	1,352
New Zealand	" "	100 = 487	Mar. " "	170 = 828	341
South Africa	" "	126 = 614	" " "	175 = 846	232
British Empire...		\$5,070		\$42,213	\$37,143
France	July, 1914	fr. 32,594 = \$6,291	Dec. 31, 1918	fr. 167,459 = \$32,332	\$26,031
Russia	" "	ru. 8,800 = 4,623	Sept. 1, 1917	ru. 49,288 ² = 25,383	20,760
Italy	May, 1915	li. 13,636 = 2,621	May 31, 1919	li. 77,763 = 15,009	12,388
Belgium	Aug. 2, 1914	fr. 8,743 = 722	Apr. 30, 1919	fr. 9,787 = 1,888	1,166
Rumania	Aug., 1916	292	Oct. 31, 1918	1,020	728
Serbia	July, 1914	271	" " "	730	459
Japan	" "	yen 2,494 = 1,247	July 31, " "	yen 2,530 = 1,265	18
United States	Apr. 5, 1917	1,190	June 30, 1919	24,232	23,042
Entente Powers.		\$22,327		\$144,062	\$121,735
Germany	Aug. 1, 1914	mk. 4,732 = \$1,126	Oct. 30, 1919	mk. 204,000 = \$48,552	47,426
Austria-Hungary .	" "	kr. 18,354 = 3,726	July 31, " "	kr. 137,858 = 28,584 ³	24,858
Turkey	Nov.,	L.T. 112 = 485	Oct. " 1918	L.T. 455 = 2,002	1,517
Bulgaria	Oct., 4, 1915	219	" " "	974	755
Central Powers.		5,556		80,112	74,556
Total		\$27,883		\$224,174	\$196,291

¹ Counting on repayment of one half of the loans to the Allies (£816 millions).² The additional debt contracted by the Bolshevik government is not included.³ Obtained by considering the debt of the new Austria as representing 70 per cent of the debt of all the states which constituted the old empire.

will be paid in the course of the current fiscal year, the total war debt of the United States by the end of 1920 will amount to over 24 billions of dollars, or, deducting the loans to Allies, to about 15 billions.

The other countries need not be treated separately, especially as in a number of cases the details are not yet available. In table R an attempt is made to present a summary picture of the public debts of all the belligerents. From this table it appears that the total pre-war debt amounted to almost 28 billion dollars. On the other hand, the debt at the close of the war, including that of Japan (whose debt was increased only by a part of the funds raised to lend to Great Britain and France), but not including the debt contracted largely for internal and non-war purposes by the Bolshevik government in Russia, amounted to over 224 billions of dollars. This would make the net debt of the world ascribable to the war about 196 billions.

When we compare these figures with the total cost of the war, which, as we have seen, amounts to over 210 billion dollars, it appears that well nigh the entire cost of the war will have been defrayed from loans. The difference of some 15 billions derived from taxation is due almost wholly to the efforts of Great Britain and the United States, the former raising about 7 and the latter about $7\frac{1}{2}$ billions from taxation—Great Britain in a little over four and a half years, the United States in a little over two years. While a few billions additional were raised, as we have learned, by Italy and Germany from taxation, their contributions to the expenditures are more than offset by the budget deficits in those states as well as in France. It remains true, therefore, that the war was conducted almost entirely on credit. The outstanding problem now confronting every country, victorious and conquered alike, is how to secure the funds needed to defray the interest and to provide for the amortization of these gigantic debts, which offset a not insignificant part of the entire wealth of the world.

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